

Amendments to the Drawings:

Please replace drawing sheet 3 depicting Fig. 4 with the enclosed Replacement Sheet.

See attachment of the Replacement Drawing.

REMARKS

I. Status of the Application

Claims 19-38 are pending in this application. In the June 7, 2007 office action, the Examiner:

A. Rejected claims 19-38 under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter;

B. Rejected claims 19-38 under 35 U.S.C. § 103(a) as allegedly being unpatentable over DE 19850642 in view of the Admitted Prior Art (hereinafter “Admitted Art”);

C. Rejected claims 19-22, 25-27 and 33-36 on the ground of non-statutory obviousness-type double patenting over U.S. Patent No. 6,529,925 (hereinafter “the ‘925 Patent”);

D. Rejected claims 19-23, 25, 29, 31 and 33-37 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over copending Application No. 10/763,046;

E. Objected to the Drawings; and

F. Objected to the Abstract because of the language and because it was longer than 150 words.

In this response, applicant has amended Fig. 4 and the abstract of the disclosure as required. Specifically, the Figure 4 has been labeled “Prior Art.” The abstract has been amended so that the language is clear and concise and the word count is below 150 words. The objection to claim 1, and the rejections of the pending claims are respectfully traversed.

Reconsideration of the application is respectfully requested in view of the foregoing amendments and accompanying remarks.

II. The Objections to the Drawings

The Examiner objected to the drawings, requiring that Figs. 1 and 4 be labeled as “Prior Art”. In this amendment, Fig. 4 has been amended to include the caption “Prior Art”. However, applicant respectfully traverses the objection to the drawings with respect to Fig. 1.

Fig. 1 shows an embodiment of the invention. In the June 7, 2007 office action, the Examiner alleged that Fig. 1 shows only which is shown in the prior art reference DE 198 50 642. Applicant respectfully disagrees. Prior art reference DE 198 50 642 shows a crest factor reduction method and apparatus in which the crest factor reduction block 20 is located between the IFFT 4 and the serial-parallel converter 5. (See DE 198 50 642 A1 at Fig. 3). By contrast, Fig. 1 of the present application shows a crest factor reduction device 17 that is downstream of both the IFFT 4 and the serial-parallel converter 5. As shown in further detail in Fig. 2, the crest factor reduction device 17 in such a position is located downstream of filters 18 and 19.

In any event, Fig. 1 does *not* show a circuit that is shown in the prior art. DE 198 50 642 does not disclose a device in which the crest factor reduction device is located downstream of a serial-parallel converter 5. For at least this reason, it is respectfully submitted that the objection to Fig. 1 on the grounds that it should be labeled “Prior Art” is in error and should be withdrawn.

Because the objection to Fig. 4 has been addressed by the amendment thereto, and because the objection to Fig. 1 is in error, it is respectfully submitted that the rejections to the drawings should be withdrawn.

III. The Rejection of the Claims Under 35 U.S.C. §101 Should be Withdrawn

The Examiner rejected claims 19-38 as allegedly being directed to non-statutory subject matter. Applicant respectfully traverses.

With respect to claim 19, it is respectfully submitted that signal processing such as that claimed in claim 19 is *not* merely a mathematical algorithm. Moreover, as amended, claim 19 recites that the filtered signal vector is *transmitted*. Processing and transmission of a signal, digital or not, is a practical physical application that has a useful and tangible result. The claimed invention does not pre-empt use of an abstract algorithm. Claim 19 does not preclude use of mathematical concepts, but rather processing (and transmission) of signal vectors of a discrete-time signal that is formed from temporally consecutive signal values.

For at least the foregoing reasons, it is respectfully submitted that the rejection of claim 19 under 35 U.S.C. §101 is in error and should be withdrawn.

Moreover, claims 20-32 all depend from claim 19. Accordingly, because claim 19 includes limitations that define to statutory subject matter, the dependent claims 20-32 also include limitations that define statutory subject matter. For at least this reason, it is respectfully submitted that the rejection of claims 20-32 under 35 U.S.C. §101 is in error and should be withdrawn.

With respect to claim 33, the rejection under 35 U.S.C. §101 is traversed on the grounds that claim 33 recites a filter, which is a real world device. A claim that includes a

real-world device such as a filter constitutes statutory subject matter. Claims 34-38 depend from claim 33 and thus include the claimed filter. Because, among other things, claims 33-38 recite a filter, it is respectfully submitted that the rejections of claims 33-38 under 35 U.S.C. §101 are in error and should be withdrawn.

IV. The Combination of Schenk and the Admitted
Prior Art Does Not Arrive at the Invention of Claim 19

The Examiner rejected claim 19, among other claims, as allegedly being obvious over Schenk in view of the Admitted Art. However, neither Schenk nor the Admitted Art, alone or in combination, teach or suggest a step of “after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector”. Accordingly, the proposed combination of Schenk and the Admitted Art does not arrive at the invention of claim 19.

A. Schenk

The Examiner appears to admit that Schenk fails to teach determining a correction vector for a signal vector *after* filtering the signal vector. (June 7, 2007 office action at p.5).

B. Admitted Art

The Examiner alleges that the Admitted Art teaches a step of filtering the signal vector prior to determining the correction vector. In particular, the Examiner alleges that the background section of the present application teaches this step in the first paragraph of page 4. (June 7, 2007 office action at p.5). It is respectfully submitted that the Examiner has

misinterpreted the Admitted Art.

In particular, the first paragraph of page 4 of the specification as filed reads as follows:

In many applications the *reduction of the crest factor is followed by a filter circuit* to limit the frequency range of the signal vector generated. In many applications, in particular in systems with a digital transmitting filter with steep filter flanks and a correspondingly long impulse response, the peak value disadvantageously increases again after filtering, so the crest factor deteriorates again. (Emphasis added).

Thus, the Admitted Art states that the reduction of the crest factor *is followed by* a filter circuit. In other words, the filtering occurs *after* crest factor reduction. Accordingly, the Admitted Art does not teach a step of filtering the signal vector *prior* to determining the correction vector.

C. The Proposed Combination Does Not Arrive at the Invention

As discussed above, neither Schenk nor the Admitted Art, alone or in combination, teach or suggest a step of “after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector”, as called for in claim 19. For at least this reason, it is respectfully submitted that the obviousness rejection of claim 19 is in error and should be withdrawn.

V. Claims 20-32

Claims 20-32 also stand rejected as allegedly being obvious over Schenk and the Admitted Art. Claims 20-32 all depend from and incorporate all of the limitations of claim 19. As discussed above, the combination of Schenk and the Admitted Art does not arrive at the invention of claim 19. Accordingly, for at least the same reasons as those set forth above in connection with claim 19, it is respectfully submitted that the obviousness rejections of

claims 20-32 are in error and should be withdrawn.

VI. The Obviousness Rejection of Claim 33 is in Error

Claim 33 also stands rejected as allegedly being obvious over Schenk in view of the Admitted Art. Claim 33 is directed to an apparatus that includes:

a correction element operably coupled to receive the filtered signal vector, the correction element configured to
determine at least one correction vector as a function of the filtered signal vector ...

As discussed above, neither reference teaches a step of “after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector”. Thus, neither of the references teaches a correction element coupled to receive the filtered signal and determine a correction vector crest factor as a function of the filtered signal vector.

Because neither Schenk nor the Admitted Art, either alone or in combination, teaches or suggests each and every element of claim 33, it is respectfully submitted that the obviousness rejection of claim 33 is in error and should be withdrawn.

VII. Claims 34-38

Claims 34-38 also stand rejected as allegedly being obvious over Schenk and the Admitted Art. Claims 34-38 all depend from and incorporate all of the limitations of claim 33. As discussed above, the combination of Schenk and the Admitted Art does not arrive at the invention of claim 33. Accordingly, for at least the same reasons as those set forth above in connection with claim 33, it is respectfully submitted that the obviousness rejections of claims 34-38 are in error and should be withdrawn.

VIII. The Double Patenting Rejection of Claim 19
Over the '925 Patent and the Admitted Art is in Error

The Examiner rejected claim 19, among other claims, as allegedly being unpatentable under the judicially created prohibition of obviousness-type double patenting. In particular, the Examiner alleged that claim 19 was obvious over claims 1 and 7 of the '925 Patent in view of the Admitted Art. However, neither claims 1 nor 7 of the '925 Patent, nor the Admitted Art, alone or in combination, teach or suggest a step of "after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector". Accordingly, the proposed combination of claims 1 and 7 and the '925 Patent and the Admitted Art does not arrive at the invention of claim 19.

As discussed above, the Admitted Art does not teach or suggest "after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector". Moreover, claims 1 and 7 of the '925 Patent do not claim determining a correction vector of a filtered signal vector *after* filtering the signal vector. Indeed, such a step is neither taught in the specification of, nor claimed in, the '925 Patent.

Thus, the combination of the '925 Patent, claims 1 and 7, and the Admitted Art do not arrive at a method that includes a step of "after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector". Accordingly, the obviousness-type double patenting rejection of claim 19 over the '925 Patent is in error and should be withdrawn.

IX. Claims 20-23, 25, 29 and 31

Claims 20-23, 25, 29 and 31 also stand rejected for double patenting as allegedly being obvious over the '925 Patent and the Admitted Art. Claims 20-23, 25, 29 and 31 all depend from and incorporate all of the limitations of claim 19. As discussed above, the combination of claims 1 and 7 of the '925 Patent and the Admitted Art does not arrive at the invention of claim 19. Accordingly, for at least the same reasons as those set forth above in connection with claim 19, it is respectfully submitted that the double patenting rejection of claims 20-23, 25, 29 and 31 is in error and should be withdrawn.

X. The Double Patenting Rejection of Claim 33 is in Error

Claim 33 also stands rejected for double patenting as allegedly being obvious over claims 1 and 7 of the '925 Patent in view of the Admitted Art. Claim 33 is directed to an apparatus that includes:

a correction element operably coupled to receive the filtered signal vector, the correction element configured to
determine at least one correction vector as a function of the filtered signal vector ...

As discussed above, neither reference teaches a step of "after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector". Thus, neither of the references teaches a correction element coupled to receive the filtered signal and determine a correction vector crest factor as a function of the filtered signal vector.

Because neither claims 1 nor 7 of the '925 Patent, nor the Admitted Art, either alone or in combination, teaches or suggests each and every element of claim 33, it is respectfully submitted that the double patenting rejection of claim 33 is in error and should be withdrawn.

XI. Claims 34-38

Claims 34-38 also stand rejected for double patenting over claims 1 and 7 of the '925 Patent and the Admitted Art. Claims 34-37 all depend from and incorporate all of the limitations of claim 33. As discussed above, the combination of claims 1 and 7 of the '925 Patent and the Admitted Art does not arrive at the invention of claim 33. Accordingly, for at least the same reasons as those set forth above in connection with claim 33, it is respectfully submitted that the double patenting rejection of claims 34-38 is in error and should be withdrawn.

XII. The Provisional Double Patenting Rejections

Several claims have been provisionally rejected for double patenting over this pending application. In particular, according to office action, several claims stand rejected as allegedly being obvious over claims of U.S. Patent Application No. 10/763,046. (June 7, 2007 office action at p.10). However, that is the serial number of the present application. That does not seem to be an appropriate rejection.

It is presumed, however, that the serial no. in the rejection is a typographical error. There is a co-pending application serial no. 10/763,045 by the same inventor. If the provisional double patenting rejection is over this application, then it is traversed again on the grounds that neither the claims of U.S. Patent Application serial no. 10/763,045 nor the Admitted Art disclose a step of "after filtering the signal vector, determining at least one correction vector as a function of the filtered signal vector". As noted above, all of the pending claims include this limitation, or a corresponding apparatus limitation. Because the claims of U.S. Patent Application serial no. 10/763,045 and the Admitted Art fail to disclose

this limitation, it is respectfully submitted that the provisional double patenting rejection is in error and should be withdrawn.

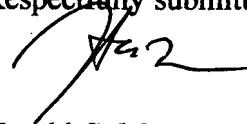
XIII. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicant has made a patentable contribution to the art. Favorable reconsideration and allowance of this application is therefore respectfully requested.

In the event applicant has inadvertently overlooked the need for an extension of time or payment of an additional fee, the applicant conditionally petitions therefore, and authorizes any fee deficiency to be charged to deposit account 13-0014.

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Respectfully submitted,



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